UNIVERSITY STUDENTS' ATTITUDE TOWARDS E.PORTFOLIO: AN EMPIRICAL CORRELATIONAL STUDY

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Abstract

Purpose – Over the last twenty years or so, the discourse of integrating e.portfolio into higher education curriculum for enhancing student learning and reflection has been increasing. Almost all the narratives in this respect come to the conclusion that implementing e.portfolio has an academic value for student education and future employment. Yet the available literature on e.portfolio, by and large, reflects an absence of exploring the impact of e.portfolio on student learning within the context of Saudi Arabia. On the one hand, the study addresses this gap in the literature. On the other hand, the aim of this report is twofold: Firstly, it examines the underlying premise, design, development, and evaluation of e.portfolio at Prince Mohammad Bin Fahd University (PMU) in the Kingdom of Saudi Arabia (KSA); second, it explores the extent to which two main variables, the perceived usefulness and the perceived ease of use, impacts students' attitudes towards e.portfolio.

Design/methodology/approach – The main design of the study is premised on an ontologically-oriented constructivist paradigm which derives the pedagogical approaches of learning by doing. Within this conceptual framework and guided by the Technology Acceptance Model (TAM), the study addresses the following questions: (1) To what extent do university students perceive e.portfolio as a useful digital tool of learning?, (2) To what extent do university students perceive e.portfolio as an easy digital tool to use?, (3) To what extent do university students have a positive attitude towards the implementation of e.portfolio in the Learning Outcomes Assessment Capstone Courses? and (4) What is the relationship, if any, between student's behavioral attitude towards e. portfolio and the perceived usefulness and the perceived ease of use of the tool? .Towards this goal and in alignment with the ontological/constructivist design of the study, a mixed methods case study approach with a validating quantitative data is conducted. The quantitative component of the study consists of a 15-item-questionnaire administered to 230 students enrolled in two Learning Outcomes Assessment Capstone Courses at the PMU. The survey ends with three open-ended questions to collect qualitative data for increasing the validity of the findings from the survey. The overall purpose of the collected data is to identify key factors that impact students' positive or negative attitudes towards e.portfolio. The 15 items of the survey aim at collecting data pertaining three main variables. The first five survey items address the perceived usefulness; the second five items address the perceived ease of use and the last five items address participants' behavioral attitudes towards e.portfolio. The Statistical Package of Social Sciences (SPSS) is used for data analysis and considered descriptive statistics (frequencies, mean and standard deviation) and correlation analysis.

Findings - Theoretically, research-based evidence indicated that e.portfolio improves student's reflection in a constructivist learning environment. Empirically, the study found that successful implementation of e.portfolio depends on variables such as students' perceived ease of use, faculty support, available online multi-media tutorials, students' conscious awareness of e.portfolio benefits at the academic, personal, social and professional levels, assigning 30% of the capstone course grade for the e.portfolio assignment, providing students with feedback on the progress of their e.portfolio, providing an e.portfolio template , and making available exemplary

samples of other students' e.portfolio. In addition, it is evident that participants have a positive attitude towards the integration of e.portfolio. Students' positive attitude statistically correlated with the perceived usefulness and perceived ease of use.

Originality/value – To my knowledge, this study is the first of its kind in the context of the KSA. The findings draw attention to key factors concerning the successful implementation of e.portfolio within the context of the KSA Higher Education. The results also provide insights, via participants' voice, into the importance of structuring e.portfolio around lifelong learning competences and their affiliated skills to maximize the effective use of e.portfolio for all students across all the university disciplines.

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Keywords: e.Portfolio, Ontology of Learning, Correlation Analysis, Active Learning, Learning-by-doing, Technology Acceptance Model

1. INTRODUCTION AND BACKGROUN

Over the last twenty years or so, the story of the effectiveness of integrating e.portfolio into higher education curriculum has been narrated by a myriad of stakeholders such as educators, curriculum designers, employers, students and researchers (Gülbahar & Tinmaz (2006). Each story has its own merit and challenges. Yet almost all the narratives congregate to one conclusion: the narrated story is necessary to be discussed and reflected upon. Various research studies define eportfolio differently (Ring & Foti, 2003). By and large, the literature in this regard does not have a general consensus on what eportfoilo is. This is not unusual as eportfolio is just a digital tool that can be adopted or adapted in accordance with the need of its stakeholder and different definitions reflect different visions and needs. Educationally, as a technological tool, it is expected that a pedagogical vision derives its implementation within a specific context.

1.1. Literature Review

For the purpose of this study, eportfolio is defined as an evidence and competency-based digital tool for students to demonstrate well selected artifacts, assignments, projects that represent their academic, social, professional growth over their schooling years. A critical review of research on e.portfolio over the last 15 years embraces concepts related to advancing deep and reflective learning, enhancing graduates employability competencies and promoting self-assessment. Completing e-portfolio that represents students' achievements over their schooling years increases students' level of competence achievement and enhances their construction of knowledge through self-reflection (Wade & Yarbrough, 1996). Also, extensive research, predominately in the west, indicated that integrating e-portfolio at the undergraduate higher education level promotes students' academic, personal and professional growth which will have a positive impact on their future employability. In a constructive learning environment, students' e-portfolio advances their deep learning through the process they undergo while reflecting on selected artifacts and assignments that represent their development of employability competencies. This reflective process engages students monologically in questioning the merit of their accomplished artifacts. Self-refection, per se, brings about deep learning which is the outcome of adapting the mindset of a researcher and problem solver. This line of logic considers deep learning as a situational, valuable and authentic process which allows students to be engaged in constructing and reconstructing their knowledge base reflectively. Giving students the opportunity to choose their artifacts, reflect on them and assign a grade for themselves make students actually practice an ownership and accountability of their learning. In this regards, research indicates that this type of deep and reflective practice advances students' academic success and lifelong learning process (Moon, 2004).

1.2. Study Context

Recognizing its educational effectiveness for enhancing students' deep and reflective learning, Prince Mohammad Bin Fahd University in the Kingdom of Saudi Arabia (KSA) initiated the integration of eportfolio concept in the general education core curriculum program in the fall of 2007. The driving force that stands behind this initiative is related to the transition that the Saud economy has been undergoing during the last 10 years or so. The KSA has been witnessing a transition from oil-based economy to another that is knowledge-driven. The labor market of a knowledge-based economy requires highly skilled workforces. To meet these demands for developing competent

and skilled workforce, PMU integrates a Competency-Based Lifelong Learning Model [CBLLLM], a teaching-learning paradigm that allows students to develop global competencies and skills (such as communication, technology, teamwork, leadership, critical thinking, global awareness, and cross cultural understanding) that they need to succeed at the professional and personal levels in a globally-oriented and competitive society.

The design, development, implementation of the CBLLLM is grounded on an ontologically-oriented and constructivist premise which centralizes learning-by-doing and inquiry based learning and assessment. Students practice these global competencies and their affiliated skills through two approaches within a constructivist learning environment. The first approach concerns a standalone component which is implemented through skill-based general education courses that all students, regardless of their majors, have to take. The general education courses are a set of humanities, social sciences, natural sciences, mathematics, economics, and learning outcomes assessment capstone courses. The second approach addresses an integrative component which aligns the identified competencies and their affiliated skills with the learning outcomes of discipline-specific programs, course assignments and projects. Towards sustaining the practical applications of the CBLLLM, PMU uses e.porfolio to provide students with the opportunity to reflectively demonstrate reliable numerous evidences of learning and acquiring the skills, competencies and attitudes necessary for university graduates to succeed in a knowledge-based economy.

From this perspective, PMU integrates e- portfolio as a digital tool that supports the institutional learning outcomes which put a premium on six employability competencies (Communication, technology, teamwork, leadership, professionalism and critical thinking). Student e.portfolio is organized around these six institutional learning outcomes and competencies which all students, regardless of their major, have to develop and demonstrate to be job ready. It is aspired that students' e.portfolio be a marketing tool for enhancing graduates' employability. In addition, the university strategically uses students' e-portfolio to facilitate the fulfillment of national and international accreditation requirements. In short, PMU uses e- portfolio to (1) advance students' development and demonstration of employability competencies, (2) measure the extent to which students have achieved a satisfactory competency level that allows them to get a job, retain it, and move to another if needed, and (3) provide authentic materials for national and international accreditations.

1.3. PMU E.Portfolio for Self-Assessment

Further, PMU e.Portfolio is considered as a learner-centered activity for motivating students to identify their strengths, weakness and opportunities for improvement. It is a major assignment in the Learning Outcomes Assessment Capstone Courses. It represents 30% of the course grade. The main objective of the Assessment Capstone Courses is to give students the opportunity to self asses the progress they have achieved in developing these competencies. To ease the process of developing a competency-based eportfolio, the university developed a template organized around the institutional learning outcomes and competences that profile the university graduates. In this assignment, students select artifacts and projects that they have developed over the previous schooling year(s). They have to align each competence with at least two artifacts that represent their development of this competence. Students uses a Key Performance Indicator (KPI) template that guides the reflection process .During the reflection process of the artifacts, students are guided to identify their weaknesses, strengths and approaches for improvement. The KPI template aims to assist students in reflectively measuring the extent to which they have achieved the required competency level that makes them job ready. Students' e-portfolios are graded by a lab instructor who uses a standard rubric for this purpose. The rubric determines the extent to which students were able to reflectively identify their weaknesses, strengths, and opportunities for improvement.

In line with this view, to effectively integrate e-portfolio across various academic disciplines in higher education, studies have shown that it is essential to instill in students an understanding of its usefulness on the personal, academic and professional levels and its ease of use. In this domain of influence, the Technology Acceptance Model (TAM) has been considered to be viable in establishing a correlation between the perceived ease of use and the perceived usefulness of the tool on the one hand and individuals' attitudes toward prospective acceptance or rejection of technology on the other hand (Davis,1989; Davis, Bagozzi, & Warshaw, 1989). This correlation represents the conceptual framework of this study which figure one demonstrates.
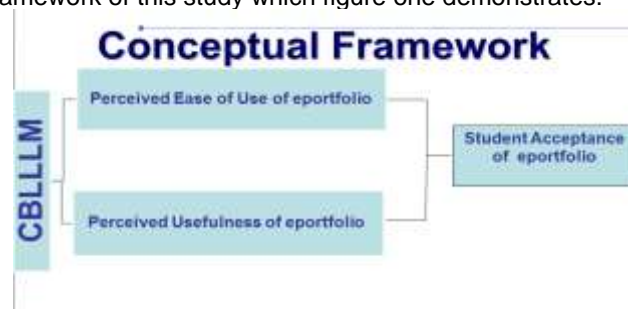

Figure 1 Conceptual framework

1.4. Problem Statement

Noticeably, much of research on the e-portfolio is Western-oriented and focuses on qualitative analysis. To date, no research on the impact of e-portfolio on students' academic performance has been reported in the context of Saudi Arabia's higher education. This study is the first of its kind in this context. It addresses a gap in the literature and provides an analysis of the design, development and implementation of e-portfolio in higher education in the context of Saudi Arabia. Towards this purpose and based on the critical analysis of the reviewed literature, four research questions have been developed to guide the research process, mainly:

1. To what extent and in what way do university students perceive e-portfolio as a useful digital tool of learning and self-assessment?

2. To what extent and in what way do university students perceive e-portfolio as an easy digital tool to use?

3. To what extent and in what way do university students have a positive attitude towards the implementation of e-portfolio in the learning outcomes assessment capstone courses?

4. What is the relationship, if any, between student's behavioral attitude towards e-portfolio and the perceived usefulness and ease use of the tool?

2. METHODOLOGY

2.1. Design

The underlying assumption of the study considers students' awareness of the usefulness of eportfolio and their perceptions regarding its ease of use impact their behavioral attitude towards its practical implementation. With this in mind, a mixed methods case study research is conducted to provide an understanding of the extent to which the usefulness and ease of use of eportfolio, as measured by students' perceptions, have the likelihood of impacting their attitudes towards its implementation.

2.2. Participants

Participants of the study were 160 males and females junior students enrolled in the Learning Outcomes Assessment Capstone course II. The choice of the sample was purposeful because e-portfolio is a major assignment in the assessment courses at the case institution. The participants also had experienced the development of e-portfolio at the beginning of the sophomore year. In assessment I, students had already selected and reflected on 12 artifacts related to the six competencies. In assessment II, they continue developing and enhancing their e-portfolio by reflecting on 12 additional artifacts.

2.3. Data Collection

A mixed methods case study approach with a validating data component (Creswell & Plano Clark (2007) has been used to explore to what extent and in what way it was easy and beneficial to develop e-portfolio. The quantitative component of the study consisted of a 5-point Likert scale survey with 15 items. The survey ends with 3 open ended questions to collect quantitative data that spotlight important quotes from the participants. Both the quantitative and qualitative items are developed based on a critical analysis of the literature on e.portfolio. The questionnaire was piloted and the refined version consisted of 3 sections which represent the three main variables of the study: perceived usefulness of e-portfolio, perceived ease of use of e-portfolio, and the participants' behavioral attitude towards the implementation of e-portfolio. The first section of the survey consisted of 5 items that measure participant's perceptions on the usefulness of e-portfolio. The second section has 5 items that measure respondents' perceptions on e-portfolio ease of use and development. The third section includes 5 items that identify participants' attitude towards the implementation of e-portfolio. All the 15 items of survey use a 5 point scale (1-not at all, 2- to a very little extent, 3-to a little extent, 4-to a high extent, 5-to a very high extent). The survey clearly indicated the purpose of the study and contained a section for participants to state their consent for taking part in the study. The qualitative component of the study was collected from 3 open-ended-questions to validate quantitative findings.

2.4. Data Analysis

The survey was administered to 230 male and female students. 160 students voluntarily participated providing a response rate at 69.5% which is quite a considerable percentage to bring about valid results.

The reliability of the survey items has been recognized in relation to an overall Cronbach's alpha (α). An alpha (α) score of 0.70 or higher on a questionnaire with four or more items is perceived to be acceptable (Sweet & Grace-Marin, 2012). In this study, Cronbach output of all the 15 items indicates alpha at (.952) which is considered, according to Sweet & Grace-Marin (2012), a strong scale reliability. The responses of the survey were analyzed through the software package for social scenes (SPSS) to identify frequency analysis, percentage, mean and

standard deviation, and correlation analysis. NVIVO was used to analyze qualitative data collected from three-open-ended questions. The three three-open-ended questions of the survey are aligned with the three main variables of the study: the perceived ease of use, the perceived usefulness of e-portfolio and participants attitudes towards the implementation of e-portfolio. Mainly, the three items asked the following questions:

1. Was it easy to develop e-portfolio? How?

2. How useful is e-portfolio for you future employment?

3. How would you describe your experience with e-portfolio as a self-assessment digital tool of learning?

3. RESULTS

The analysis of the data was conducted in relation to each research question. Research question one asked, "To what extent do university students perceive e-portfolio as a useful digital tool of learning?" To measure the respondents' perceptions in this regard, descriptive statistics of the first five items of the survey was performed with an alpha level at (.969) indicating the reliability of the measuring tool. Table 1 presents the frequencies and the mean of the first main research variable which measures the extent to which participants perceive e-portfolio as an easy digital tool to develop. Descriptive statistics of the 5 items related to the first main variable show that 78% (124 out of 160) of the respondents showed an agreement directed towards level 4 and 5 (to a high extent and to a very high extent) with an overall mean at 3.91 and a standard deviation at 0.75, indicating that the majority of the respondents' answers are clustered around the mean. So, statistically the majority of the respondents believe that it was easy to develop e-portfolio.

Table 1: Perceived ease of use

Research Question one	To what extent do student perceive e.portfolio as an easy digital tool to use?											
Variables	Participants	not at all		to a very little extent		to a little extent		to a high extent		to a very high extent		Mean	Std. Dev.
	Students number	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%		
1.To what extent was it easy to develop an e-portfolio?	160			3	1.9	33	21	91	57	33	20.6	3.96	0.69
2. To what extent was it easy to document and demonstrate your academic, social and professional achievements through e.portfolio?	160			6	3.8	31	19	91	57	32	20	3.93	0.73
3. To what extent does providing online tutorial make it easy for you to develop your e.portfolio?	160			10	6.3	33	21	87	54	30	18.8	3.85	0.79
4. To what extent does providing a template to develop e-portfolio make it easy to organize artifacts professionally?	160			5	3.1	42	26	83	52	30	18.8	3.86	0.74
5. To what extent does the support you receive from the lab instructor make it easy for you to develop your e.portfolio?	160			7	4.4	31	19	82	51	40	25	3.96	0.78
Average mean and std.dev. for RQ 1												3.91	0.746

Research question two measured participants' perception of the extent to which they believe in the usefulness of e-portfolio. Descriptive statistics of the 5 items of the variable (Table 2) show that 76% (121 out of 160) of the respondents believe that developing e-portfolio is useful in relation to all factors considered. Helping them in identifying their strengths, weaknesses and opportunity for improvement was considered to be the most essential benefit they got with a mean at 3.8. The enhancement of academic performance was considered to be the second important benefit they believe e-portfolio provides with a mean at 3.82. These findings indicate that university students value e-portfolio as an easy tool to assist them in advancing their academic performance through identifying their weaknesses in such a way that allows them to develop intervention strategies for improvement.

Table 2: Perceived usefulness

Variables	Participants — Students number	not at all Freq.	not at all %	to a very little extent Freq.	to a very little extent %	to a little extent Freq.	to a little extent %	to a high extent Freq.	to a high extent %	to a very high extent Freq.	to a very high extent %	Mean	Std. Dev.
6. To what extent was developing e-portfolio useful in enhancing your technological and critical thinking skills?	160			19	11.9	32	20	86	54	23	14.4	3.7	0.85
7. To what extent was developing e-portfolio useful in improving your learning of lifelong learning skills?	160			18	11.3	28	18	85	53	29	18.1	3.78	0.87
8. To what extent was developing e.portfolio useful in helping you to identify your strengths and weaknesses?	160			15	9.4	22	14	87	54	36	22.5	3.9	0.85
9. To what extent was developing e-portfolio useful in showcasing your internship achievements?	160			16	10	27	17	84	53	33	20.6	3.8	0.86
10. To what extent was developing e.portfolio useful in enhancing your academic performance?	160	7	4.4	14	8.8	23	14	72	45	44	27.5	3.82	1.06
Average mean and std.dev. for R.Q2												3.8	0.898

Research question 3 measured participants' attitude towards the usage of e-portfolio in general. Descriptive statistics of the items from 11-15 (Table 3) indicate that 76% (121 out of 160) of the respondents' have a positive attitude towards e-portfolio especially as a tool for enhancing self-esteem and self-efficacy which reflect a mean at 3.9 and a standard deviation at 0.7. E-portfolio as a marketing digital tool comes in rank after the self-esteem factor regarding its importance with a mean at 3.8 and SD at 1.

Table 3: Student attitude

Variables	Participants — Students number	not at all Freq.	not at all %	to a very little extent Freq.	to a very little extent %	to a little extent Freq.	to a little extent %	to a high extent Freq.	to a high extent %	to a very high extent Freq.	to a very high extent %	Mean	Std. Dev.
11. To what extent do you believe that an E-portfolio is more effective than a paper-based portfolio?	160			8	5	42	26	71	44	39	24.4	3.8	0.83
12. To what extent do you believe that e-portfolio is a valuable digital tool of learning and employment?	160	2	1.3	14	8.8	31	19	88	55	25	15.6	3.75	0.86
13. To what extent do you believe that e.portfolio enhances your self-esteem and self-efficacy?	160			2	1.3	38	24	81	51	39	24.4	3.9	0.7
14. To what extent do you believe that a well-organized e.portfolio promotes a story of your academic progress and intellectual growth?	160			17	11	32	20	84	53	27	16.9	3.7	0.85
15. To what extent do you believe that e-portfolio can be a marketing digital tool for your future employment?	160			19	12	27	17	81	51	33	20.6	3.8	0.9
Average mean and std.dev. for R.Q3												3.79	0.828

Research question 4 asked: what is the relationship, if any, between students' behavioral attitude towards e-portfolio and the perceived usefulness and perceived ease of use of the tool? Pearson's correlation coefficient was used to measure if there is a relationship between variable 1 (perceived ease of use) and variable 2 (perceived usefulness). The correlation coefficient was 0.855 (correlation is significant at the 0.01 level) indicating a strong relationship as shown in table 4.

Table 4: Correlational analysis between variable one and two

Correlations between RQ1&RQ2		RQ1	RQ2
RQ1 : To what extent do student perceive e.portfolio as an easy digital tool to use?	Pearson Correlation	1	.855**
	Sig. (2-tailed)		.000
	N	160	160
RQ2 : To what extent do students perceive e.portfolio as a useful digital tool?	Pearson Correlation	.855**	1
	Sig. (2-tailed)	.000	
	N	160	160
**. Correlation is significant at the 0.01 level (2-tailed).			

This is an indication that participants' perception of e-portfolio as an easy tool to use impacts their perception of e.portfolio as a useful tool for enhancing employability competencies and vise-versa. That is, participants' beliefs regarding e-portfolio as an easy and useful tool are interrelated and interdependent. This finding provides insights, via correlational analysis, into the value of easing the usage and development of e-portfolio as well as enlightening students of the benefits of e.portfolio.

Another correlational analysis is conducted between the first and second variables (perceived ease of use and perceived usefulness of e-portfolio) on the one hand and variable three (participants' attitude towards e-portfolio) on the other hand. Analysis in this regard indicates that correlation coefficient is .929 (correlation is significant at the 0.01 level), indicating a strong positive relationship. That is, the perceived ease of use and the perceived usefulness of the tool impact participants' attitude towards e-portfolio as shown in table 5.

Table 5 Correlational analysis between variable one, two and three

Correlations between RQ1&RQ2 between G.M. & RQ3		RQ3	G.M
To what extent do students accept to use e.portfolio?	Pearson Correlation	1	.929**
	Sig. (2-tailed)		.000
	N	160	160
Grand Mean of RQ1&RQ2 (G.M)	Pearson Correlation	.929**	1
	Sig. (2-tailed)	.000	
	N	160	160
**. Correlation is significant at the 0.01 level (2-tailed).			

Participant's positive attitude and acceptance of using e-portfolio for enhancing self –esteem , self-efficacy, academic performance and future employability is impacted by their awareness and perceptions of e-portfolio as an easy tool to develop and a useful tool for identifying their strengths, weaknesses and opportunities for improvement.

Significantly, the statistically based and correlational findings are confirmed through the qualitative data collected from the open-ended questions. The first open-ended question asked participants whether it was easy to develop e-portfolio and if so, how. Respondents reported that the provided e-portfolio template and the technical support they received from the lab instructor made it easy for them to develop their e-portfolio. One respondent reported that "my experience with the e-portfolio was good and easy for me to do". Another responded stated that "it was easy to develop it in class because I can ask my friends or the instructor for help if I need". When participants were asked about the usefulness of e-portfolio for their future employability, the majority stated that e-portfolio facilitates

the process of getting a job and that it would be much appreciate if the university allows them to have an online access of their e.portfolio at least for 6 months from the date of graduation. In this regard, one respondent stated, "I very much agree that my e-portfolio can be a valuable marketing tool for getting a job". A second respondent stated, "When we apply for a job we can put a link to our e-portfolio as a reference that shows employers how we present and do research". A third respondent said "I'm sure it will make me more employable with all the skills reflected on". The third open-ended question asked participants to describe their experience with e-portfolio as a self-assessment tool of learning. Respondents stated that self-assessing their previous performance was a good experience to consider where they had been, where they are and where they should be. One respondent stated, "It was a great experience but takes a lot of time". A second respondent mentioned that "it was beneficial and it made me feel confident"; a third respondent indicated that "it was very useful, although it was demanding; it improved my writing and assessment skills".

All in all, it was evident that thematic patterns cut across respondents' answers to the three-open-ended questions. It was illuminating that some of the respondents' answers established a correlation between the ease of the use of e-portfolio and the support they receive from their lab instructor. These findings indicate that it is essential to provide the required support students need to maximize the benefits of e-portfolios. Considerably, both the quantitative and qualitative findings advance and generalize the theoretical assumptions that relate students' academic success to an effective integration of e-portfolio at the course level.

4. CONCLUSION

The findings of the study indicate that there are some factors that impact a successful implementation of e-portfolio. The following list represents these factors:

- Technological support.
- A clearly defined measurable objectives and learning outcomes.
- Students' awareness of the added value of e-portfolio.
- Sustainability of e-portfolio development.
- Providing online access for students to post their e-portfolios.
- E-portfolio assignment must be aligned to the learning outcomes of some courses.

REFERENCE LIST

Creswell, J., & Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research,* Sage Publications.

Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–339.

Davis, F., Bagozzi, R., & Warshaw, R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982–1003.

Gülbahar, Y., & Tinmaz, H. (2006). Implementing project-based Learning and eportfolio assessment in an undergraduate course. *Journal of Research on Technology in Education*, 38(3), 309-327.

Housego, S., & Parker, N. (2009). Positioning e.portfolios in an integrated curriculum. *Education Training*, 51(5/6), 408-421.

Kennedy, F., Bruen, J., & Péchenart, J. (2012). Using an e-portfolio to facilitate the self-assessment of both language and intercultural learning in higher education: A case-study approach. *Language Learning in Higher Education, 1*(1).

Kwon Jun, M., Anthony, R., Achrazoglou, J., & Behrends, W. (2007). Using e-portfolio™ for the assessment and professional development of newly hired teachers. *Tech Trends, 51*(4), 45-50.

Moon, J. (2004) A *Handbook of Reflective and Experiential Learning: Theory and Practice*, Routledge Falmer, London.

Ring, G. L., & Foti, S. L. (2003). Addressing standards at the program level with electronic portfolios. *TechTrends, 47*(2), 28-32.

Paulson, F. L., Paulson, P. R., & Meyer, C. (1991). What makes a portfolio a portfolio? *Educational Leadership, 48*(5), 60-63.

Sweet. S. & Grace-Marin, K. (2012). Data Analysis with SPSS: A First Course in Applied Statistics. Allyn & Bacon. Pearson

Tzeng, W., Kuo, K., Talley, P. C., Chen, H., & Wang, J. (2015). Do e-portfolios Contribute to learners' reflective thinking activities? : A preliminary study of nursing staff users. *Journal of Medical Systems, 39(*9).

Wade, R. C., & Yarbrough, D. B. (1996). Portfolios: A tool for reflective thinking in teacher education? *Teaching and Teacher Education, 12*(1), 63-79.